Section 4
Gang
Programmers

Gang
Programmers

Advanced Transdata Corporation

PGM2000

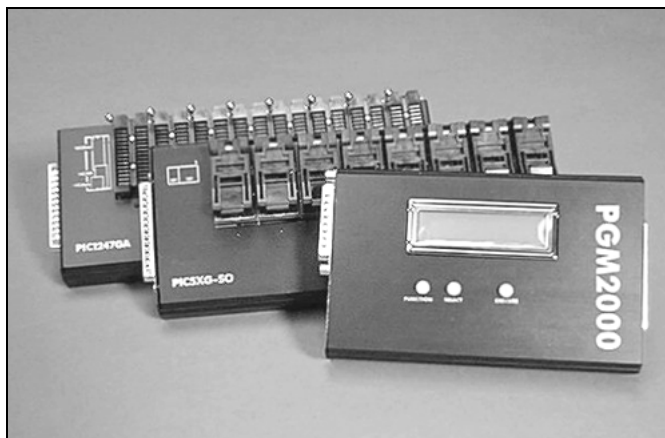### 8-Gang Programmer for PIC12CXXX, PIC14C000, PIC16CXXX, PIC17CXXX and PIC18CXXX

Features:

- Production quality 8-gang programmer for most PICmicro® microcontroller (MCU) devices
- FLASH-based firmware allows easy product update and new device support
- Stores two set of data to be programmed in EEPROM memory
- Different programming adapters for device groups and package types
- Programming adapters available for processors from other IC manufacturers
- Data to be programmed are securely stored inside EEPROM memory of MCU
- Checksum verification alerts users of any data corruption in master codes
- Supports sequential serialization
- LCD display provides function menus and programming results
- Selectable program modes:
  1) Blank check/program/verify
  2) Program/verify only
  3) Program fuse only
- Adjustable V_{DD}, V_{PP}, V_{DD_MAX} and V_{DD_MIN} in 0.1 volt increments
- Stand-alone duplication mode
- Data to be duplicated can be read from a chip or from a file on PC
- Hosted by any IBM PC® or compatible via standard parallel port
- Supports Binary and HEX object files
- Comes with Windows® 95/98/NT® driver software (for PC-hosted mode), cable, power adapter and User's Guide

Contact:

Advanced Transdata Corporation
14330 Midway Road, Suite 128
Dallas, TX 75244
TEL: (972) 980-2667/2960
FAX: (972) 980-2937
email: info@adv-transdata.com
web: www.adv-transdata.com

Advanced **TransdAtA**

Product Information:

PGM2000 is a universal PICmicro MCU 8-gang programmer supporting most PICmicro microcontrollers. It comprises of a Master Control Unit (MCU) which connects to an interchangeable 8-socket program adapter for chip duplication. It is designed according to Microchip Technology's programming specifications to ensure its quality as a production programmer.

Program data and configuration fuse settings is initially downloaded into the EEPROM of the MCU read from a master chip or downloaded from a file on the PC host. Once the codes reside in the MCU, they are stored securely and protected from accidental modifications.

A Liquid Crystal Display (LCD) on the MCU provides users with different functional menus and programming results. There are two sets of functional menus. A regular set for the operating staff with access to program, blank check and verify functions only. A second secured function set allows authorized personnel to specify programming mode, configuration fuse, programming voltages and read data from a master device to the MCU.

Several 8-socket program adapters are available to program different PICmicro MCU devices and package types. Each of the eight slave sockets is equipped with a Light Emitting Diode (LED) to indicate blank check, verify and program results.
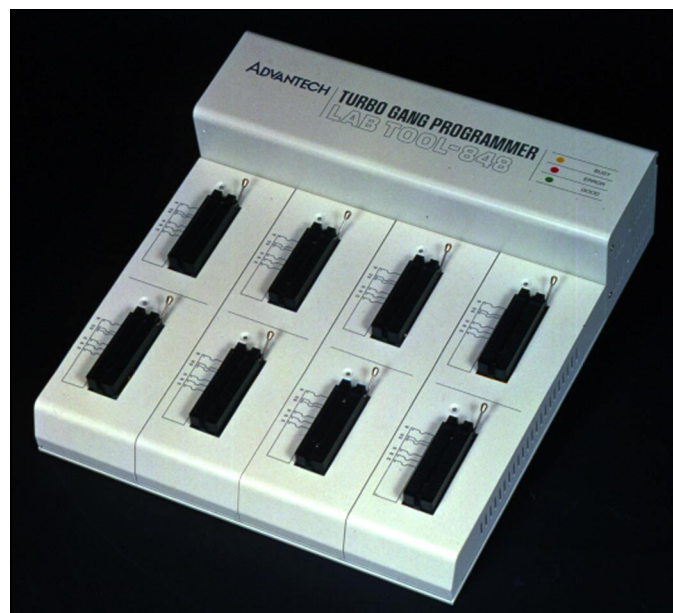
To ensure that no defective codes will be duplicated, PGM2000 tests the integrity of the data against its checksum before each programming cycle which includes blank check, program (data and configuration fuse) and verification at the two selected voltages.

4

Gang Programmers

Advantech Equipment Corp.

LabTool-848

Features:

- Eight independent, fully isolated 48-pin ZIP sockets
- FLASH, EPROM, EEPROM, PIC16CXXX support
- Device insertion and continuity test
- Support both 5V and 3V chips
- High throughput, program eight pieces 8 Mb flash chips within 45 seconds
- Semiconcurrent programming with auto-sensing/self-start automatically independent modules allow flexible configuration and minimum down time
- Universal adapters support 48 TSOP, 44 PSOP, 40 TSOP flash chips.
- Project file save/load function
- Variable verify voltage with one/two pass
- Print port interface with auto switch power supply
- Run on DOS™ and DOS prompt of Windows® 3.1/95/98
- Devices and software updates via the Web.
- Optional handler interface

Product Information:

The LabTool-848 is a PC parallel-port-base gang programmer. It features eight fully-isolated 48-pin ZIF sockets, extremely high throughput, standard 5V and 3V chip support, device insertion and continuity check. The PC-base design of the LabTool-848 means that device updates are available via software, enabling customers more flexibility and quicker access to new chip support. The LabTool-848 supports EPROM, EEPROM, FLASH, and PIC16CXXX microprocessors.

The LabTool-848 was built with flexibility in mind. If customers have special chips that not in our standard support list, we can provide a special program that allows the LabTool-848 to become a customized, special chips production gang programmer.

Using the PC as a resource enables the LabTool-848 to support from 32K bit chips to 128 Mbit memory chips without upgrading the hardware. Eight independent onboard FPGAs provide full isolation between each socket.

Programming throughput is the key feature of the LabTool-848. By implementing the semiconcurrent programming with auto-sense self-start technology, the operator can load/unload four chips while simultaneously programming the remaining four chips.

An operator can program over three thousands 8 Mbit flash chips per day with one LabTool-848. LabTool-848 also provides the universal adapters for flash memory. Customers can order 48-, 40-, and 32-pin TSOP or 44-pin PSOP adapters to fit the same package of different flash chips, eliminating the need to buy multiple adapters.

Contact:

Advantech Equipment Corp.
Fl.7, No.98, Ming-Chuan Road,
Shing-Tien City,
Taipei, Taiwan
TEL: 886-2-2218-2325
FAX: 886-2-2218-2435
email: citron_chang@acl.advantech.com.tw
web: www.aec.com.tw

Advin Systems Inc.

PILOT-1600

Features:

- Proven industrial quality
- Free lifetime software updates via the Web
- True low voltage support down to 1.8V
- Programs 16 devices simultaneously, 1000+ devices per hour)
- CE certified
- Complete support for all Microchip Technology PICmicro® microcontroller (MCUs) and Serial EEPROMs, including:
  - PIC12CXXX
  - PIC14CXXX
  - PIC16C5X
  - PIC16C6X
  - PIC16C62X
  - PIC16C7XX
  - PIC16F87X
  - PIC16C9XX
  - PIC17CXXX
  - 24LCXX
- Supports other EPROMs/micros
- Field expandable to support logic devices

Contact:

Advin Systems Inc.
1050-L East Duane Ave
Sunnyvale, CA 94086
TEL: (888) GO-ADVIN, (408) 243-7000
FAX: (408) 736-2503
Tech Support: (800) 627-2456
web: www.advin.com
International Distributors
Please visit www.advin.com

Product Information

PILOT-1600 is designed for the production centers that demand high throughput. It programs 16 Microchip Technology PICmicro microcontroller (MCU) devices simultaneously, typically in 15 seconds to 1 minute, depending on device size. Each device is verified with both high and low Vcc margins according to Microchip Technology's production programmer requirements.

PILOT-1600 is a very versatile memory/micro programmer, capable of programming all of Microchip Technology's PICmicro MCUs and Serial PROMs. It also supports a wide variety of other devices including EPROMs, flash and other kinds of micros.

Easy snap-on GM-series gang modules allow fast change from one package type to another. A complete array of gang modules is available directly from Advin for programming all package types, including: DIP, PLCC, SOIC, SSOP, TSSOP and TQFP.

Supplied software is very easy to use and provides plenty of useful functions such as reading from a data file or master, setting of specific configuration bits, device securing, automatic generation of serial numbers, etc. Macro files can be setup easily, translating into simple operation for non-technical personnel.

PILOT-1600 interfaces to the PC host through the standard parallel port. Built-in power supply automatically adjusts to any international AC input voltage between 85 and 264 volts, making it ideal for international use.

Advin has been making quality programmers for more than ten years and customer happiness is their number one priority. Please call and see how they can meet your needs.

4

Gang Programmers

Data I/O Corporation

ProMaster 2500

Features:

- Supports PICmicro® microcontrollers (MCU), Serial EEPROMs, Parallel EEPROMS and EPROMs
- Programs, tests, labels and sorts in a single-pass, tube-to-tube operation
- Pick-and-place device transport protects SMT and other devices against physical damage
- Changeovers from one package style to another can be done in two minutes or less — no tools or special skills are required
- Fully grounded device-contact surfaces guard against ESD damage
- Advanced pin electronics are tuned to ensure optimum signal fidelity and superior programming yields for high-speed devices
- Easy-to-use, PC-based software provides integrated control of all system components, including the handler, programmer and data source
- Detailed statistics of each programming session let you analyze programming trends and better manage quality

Product Information:

The ProMaster® 2500 from Data I/O® is a fully integrated, automated system for programming, testing, sorting and labeling programmable devices. The first device-handling system in the industry to incorporate programming hardware within its design, the ProMaster 2500 reaches a new level of system integration, making operation simpler and more reliable than ever.

Providing universal support for devices in DIP packages up to 32 pins, PLCC packages up to 84 pins, and 150-mil through 530-mil SOIC packages with 8 to 44 pins, the ProMaster 2500 programs, labels and sorts as many as 500[1] devices per hour. Its state-of-the-art pick-and-place handling technology minimizes damage to delicate surface-mount devices for safe, high-yield SMT production. Automated tube-to-tube processing also eliminates human errors and device damage, and minimizes any electrostatic discharge (ESD) damage caused by human handling.

The system is controlled by Data I/O's TaskLink Software for easy automation of programming tasks. The result is a complete turnkey solution that improves the productivity, quality and flexibility of your production process.

Contact:

Data I/O Corporation
10525 Willows Rd. NE
P.O. Box 97046
Redmond, WA 98073-9746
TEL: 425-881-6444
           1-800-332-8246
FAX: 425-869-7423
email: telsales@data-io.com
web: www.data-io.com

1. Actual throughput will depend on device programming/testing times.

Data I/O Corporation

ProMaster 3000

Features:

- Fully integrated and automated system for programming, testing, sorting and labeling programmable devices
- Easy automation of programming tasks
- A complete turn-key solution
- Universal support for devices in both DIP and surface-mount technology (SMT) packages up to 84 pins
- Programs, labels and sorts as many as 700 #1 devices per hour
- State-of-the-art pick-and-place handling technology
- Automated tube-to-tube processing
- Available with automated tape-and-reel output

Product Information:

The ProMaster 3000 from Data I/O® is a fully integrated, fully automated system for programming, testing, sorting and labeling programmable devices. The system is controlled by Data I/O's TaskLink PC Control Software for easy automation of programming tasks. The result is a complete turnkey solution that improves the productivity, quality and flexibility of your production process.

Providing universal support for devices in both DIP and surface-mount technology (SMT) packages up to 84 pins, the ProMaster 3000 can program, label and sort as many as 700[1] devices per hour. Its state-of-the-art pick-and-place handling technology minimizes damage to delicate surface-mount devices, for safe high-volume, high-yield SMT production. Automated tube-to-tube processing also eliminates human error and device damage, and minimizes any electrostatic discharge (ESD) damage caused by human handling.

From input to output, the ProMaster 3000 has been designed for flexibility. Pick-and-place heads can rotate devices, so programming and labeling proceed without interruption regardless of device orientation in the tubes. A high-density, thermal printer quickly prints and applies device labels, available in a wide variety of materials and sizes, in one swift and precise operation. The ProMaster 3000 is also available with automated tape-and-reel output.

Contact:

Data I/O Corporation
10525 Willows Rd. NE
P.O. Box 97046
Redmond, WA 98073-9746
TEL: 425-881-6444
        1-800-332-8246
FAX: 425-869-7423
email: telsales@data-io.com
web: www.data-io.com

Data i.O

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Gang Programmers

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1. Actual through-put will depend on device programming/testing times.

Data I/O Corporation

PP 100

Features:

- Supports: PIC12CXXX, PIC14C000, PIC16C5X, PIC16C6X, PIC16C62X, PIC16C7XX, PIC16F87X, PIC16C9XX and PIC17CXXX
- Supports memory, microcontroller and logic devices
- Programs DIP, PLCC, SOIC, QFP, TSOP, BGA, uBGA and other chip-scale packages
- Modular system design allows configuration for a wide range of applications
- Configurable with 4 to 16 concurrent programming sites
- Flexible input/output media options for tray, tube and tape
- Label or Laser (CO_2 or Yag) marking
- Optional vision positioning system for device alignment accuracy
- ETU software with intuitive menus for job creation and statistical analysis
- Small mechanical footprint (46-inches L x 32-inches W x 62-inches H)
- Worldwide sales, service and support

Contact:

Data I/O Corporation
10525 Willows Road N.E.
P.O. Box 97046
Redmond, WA 98073-9746
TEL: 1-800-3-DataIO
     (1-800-332-8246)
     (425) 881-6444
FAX: (425) 869-7423
BBS: (425) 882-3211
email: telsales@data-io.com
web: www.data-io.com

Product Information

The PP 100 is a highly flexible and configurable automated device programming and marking system for both conventional and fine-pitch devices. From the steel-frame construction to industrial servo-motors and linear glass encoders, the PP 100 is designed with highly durable, production-quality components to provide the highest level of reliability and performance.

The PP 100 can be configured with up to 16 high-speed programming sites and a fully configured system provides a throughput of up to 850 devices per hour. Each programming site provides 84-pin drivers as standard, with unlimited pin driver expansion. The programming sites support all device technologies including FLASH, FPGA, memory, microcontroller and logic.

Input and output feeder options include tray (JEDEC, Motorola® or NEC), tube or tape-and-reel and devices can be marked with a laser (CO_2 or YAG) or a labeler. Built-in Ethernet capabilities allow easy hook-up to a Novell network for central control and download of data files from a secured database.

Hi-Lo Systems, Inc.

ALL-GANG-08 Universal Gang Programmer

Features:

- Loads data from files on the PC or from a master IC
- Programs eight ICs at one time
- Supports PIC12CXXX, PIC16C5X, PIC16C6X, PIC16C6XX, PIC16C7XX, PIC16C7X and PIC16F87X
- Interchangeable sockets support DIP, SOIC, PLCC, SSOP, QFP, etc.
- Supports EPROM, EEPROM, FLASH, PICmicro® microcontroller (MCUs) and PLD
- Universal programmer option available
- New Windows®-compatible user interface makes programming simple
- Programs and verifies (at V_{DD_MAX} and V_{DD_MIN}) eight PIC16C62 in 12.5 seconds
- Includes free software updates

Product Information:

The ALL-GANG-08 features interchangeable socket options to support many more device families and packages than a typical low-cost gang programmer. The ALL-GANG-08 supports gang programming of nearly all Microchip Technology PICmicro family microcontrollers as well as memory and logic IC's. The ALL-GANG-08's interchangeable sockets support DIP, PLCC, SOP, SSOP, QFP, TSOP and other packages. The ALL-GANG-08 is designed to support new device families and packages as they are released.

The ALL-GANG-08 connects to the serial port of any desktop or laptop PC and features a new Windows compatible interface that makes it easy to use for an operator of any skill level. Only a single external key on the programmer needs to be used by the operator after setup. Programmer setups can be stored in a configuration file for easy recall. As part of the ALL-LAB family the ALL-GANG-08 programmer can be expanded to a Universal Programmer by purchasing the ALL-11 option.

Hi-Lo works closely with Microchip Technology to provide prompt support for new device families. Hi-Lo's products are approved by major IC manufacturers. The ALL-GANG-08 is supported by a network of distributors in over 50 countries worldwide. Hi-Lo has been a leading provider of high-quality, low-cost programmer products since 1986.
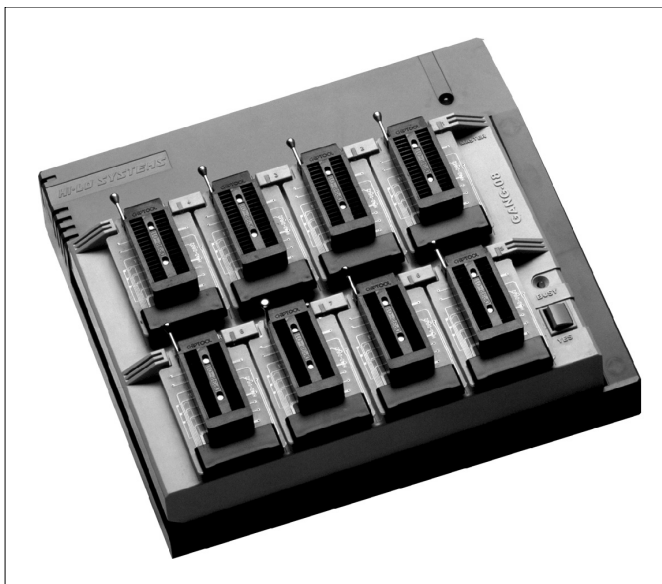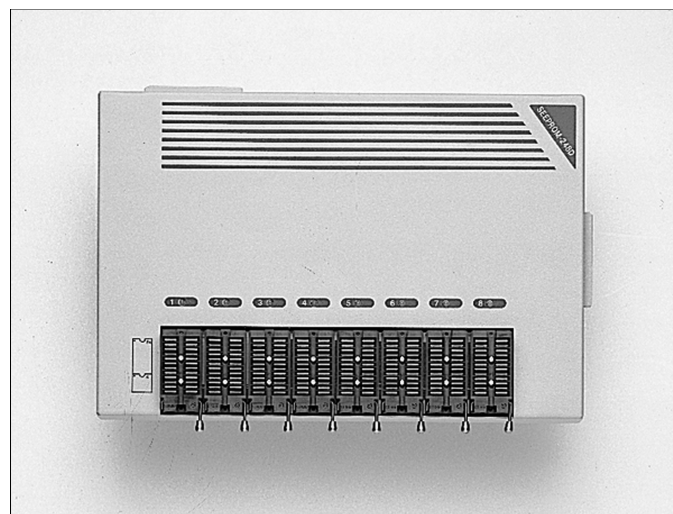
Contact:

Hi-Lo Systems, Inc.

44388 S. Grimmer Blvd.
Fremont, CA 94538, USA
TEL: (510) 623-8859
FAX: (510) 623-9925
email: sales@tribalmicro.com
web: www.hilosystems.com

Hi-Lo Systems Research Co., Ltd.

4F, No. 20, Lane 76
RUI Guang Rd.
NEI HU, Taipei, Taiwan
TEL: 886-2-8792-3301
FAX: 886-2-8792-3285
email: hilosys@hilosystems.com.tw
web: www.hilosystems.com.tw

HI-LO SYSTEMS

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Gang Programmers

LEAP
Electronic Co., Ltd.

SU-2000
CARTRIDGE MODULE
SEEPROM-248D

Features:

- SEEPROM-248D supports gang programming for Serial EEPROM devices for 93LCXX and 24LCXX series
- Additional products available to support gang programming for PIC12CXXX, PIC14C000, PIC16C5X, PIC16C6X, PIC16C62X, PIC16C7XX, PIC16F87X, PIC16C9XX and PIC17CXXX
- Provides an optional easy-to-use Windows® basis software for PC
- Includes console keyboard for use without a PC host
- Complies with TUV ISO-9002 production requirements and EMC requirements
- Support of the "green" low-voltage devices
- DC parametric test
- Able to perform IC insertion and contact checks before programming.
- Be able to detect poor pin contact and devices inserted upside down or in the wrong position
- Package support: up to 24-pin DIP and SOP (adaptor needed)
- Device operations: sumcheck, blank check, read, program, verify and erase

Product Information:

The SU-2000 is designed for mid-volume applications. Expanding the capabilities of the system are cartridge modules that support PICmicro® microcontroller (MCUs) and SEEPROM.

Those modules compatible with SU-2000 offers two modes of operation. For operation in a stand-alone environment, you can use the SU-2000 smart and easy-operation keyboard with r x 20 LCD character display. Or, for greater flexibility and control of your complete programming operation, they can be driven under Windows 3.1/95 systems.

The benefits of the cartridge module design include:

1 More convenient. The ability to quickly change cartridge modules for new devices – easy and conveniently.
2. More economical. For new devices, you only need to change the cartridge module. You do not need to buy another main module – fully utilizing, saves money and truly economical.

Contact:
LEAP Electronic Co., Ltd.
6th F104, No. 4, Lane 609
Chunghsin Rd., Sec. 5
Sanchung, Taipei Hsien
Taiwan
TEL: (886) 2 29991860
FAX: (886) 2 29990015

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Lloyd Research Ltd.

L9000

Modular Programmer

Features:

- Gang programs up to 8 PIC16C5X, PIC16C5XX, PIC16C6X, PIC16C6XX, PIC16C7XX, PIC16C8X, PIC17CXXX, PIC17CXXX and PIC12C50X
- Purpose designed modules with DIL, SOIC or PLCC sockets eliminate crude socket adaptors
- Local LCD for stand-alone operation or use with a PC (DOS™ and Windows® 95/98 or WIndows NT®)
- Other gang modules for EPROM, EEPROM, FLASH and Microcontrollers
- Free telephone support
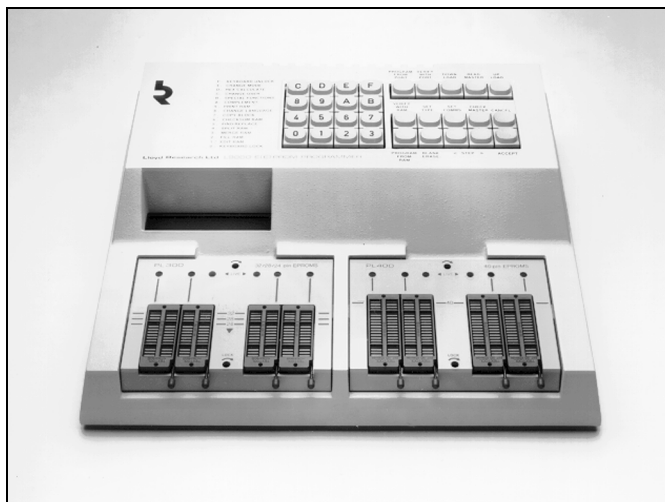- Extensive sales and service network

Contact:

Lloyd Research Ltd.

7 & 7A Brook Lane, Warsash,
Southampton, S031 9FH, UK
TEL: (44) 1489 574040
FAX: (44) 1489 885853
email: progs@lloydres.co.uk
web: www.lloyd-research.com

Distributors:

Brazil:	(55) 114535588
Denmark:	(45) 75643366
	(45) 57642251
France:	(33) 139611414
Germany:	(49) 893071096
	(49) 898343047
Italy:	(39) 024459203
Malaysia:	(60) 37341017
	(60) 46422088
Norway:	(47) 33165700
	(47) 63952000
Portugal:	(35) 114715517
Singapore:	(65) 7477234
Swedish	(46) 84441050
	(46) 58919250
USA:	Distributor inquiries welcome

Product Information:

The L9000 is a modular programmer which supports virtually all EPROMs, FLASH and almost the entire PICmicro® Microcontroller (MCU) range in both DIL and SOIC packages.

The L9000 is ideal for production because there are purpose-designed modules rather than socket adaptors. Modules are available for DIL, (P)LCC, SOIC, TSOP and QFP, etc.

Devices can be programmed with serial numbers.

The L9000 has been tested and approved by three semiconductor vendors.

A simple batch file facility allows the user to download code and select device type and programming options which simply leaves the operator to fit devices and press the program button. There is also an optional PC software driver.

New devices are added monthly and the latest device list is available on our Web site together with a list of international distributors.

Both serial and parallel ports are fitted to the L9000. An optional data compression program reduces download time to 10 seconds per megabit for larger devices.

4

Gang Programmers

MQP Electronics

System 2000

With Programming Module
MP1 or MP3 and Package Converters

Features:

- Supports PIC16C5X, PIC16C6X, PIC16C7X, PIC16C8X, PIC16C92X, PIC17C4X and PIC12C50X
- High-speed stand-alone Gang programmer
- Fast and reliable programming
- Complete PC remote control capability included
- Exchangeable programming modules allow system to cater for most production programming requirements

Contact:

MQP Electronics Ltd.
Park Road Centre
Malmesbury
Wilts SN16 0BX England
Tel: (44) 1666 825666
Fax: (44) 1666 825141
email   mqp@compuserve.com
web: www.mqp.com

Distributors:
UK: (44) 1666 825 666
France: (33) 1 69 41 28 01
Germany: (49) 811-6 00 05 0
Italy: (39) 2 92 10 35 54
Ireland: (353) 1 2800395
Japan: (81) 729 81 6332
S.E.Asia: (65) 749 616
South Korea: (82)2 633 8788
U.S.A: (1) 949 493 7603

Product Information:

The System 2000 is a stand-alone programming system mainly intended for volume production.

It can also be quickly connected to any PC compatible, via serial or parallel port, to take advantage of the added-value production batch features.

It is extremely fast: the MP4 EPROM module will program sixteen 1 Mbit EPROMs in around 20 seconds, including all normal checks and verification at two different user selectable V_{CC} levels.

With module MP3 and the relevant package converter fitted, it can program eight PICmicro® microcontroller (MCUs) in under 1 second. This includes blank check, programming and verification at two V_{CC} levels, plus in the case of a PICmicro microcontroller (MCU), any of the special functions such as watchdog disable or code locking which may be automatically performed, making the production of a quantity of programmed PICmicro microcontroller (MCUs) extremely fast.

Module MP1 is a universal programming module with a single socket. Flexible design using reconfigurable logic protects your investment and allows: any voltage on any pin; power supplies on any pin; programming slew rates, voltage measurement on any pin.

mqp ELECTRONICS

MQP ELECTRONICS

Pin-Master Gang Programmers for PICmicro® Devices

Features

- Stand-alone or PC driven
- Programs up to 8 devices simultaneously
- Very high throughput
- Low-cost (cheaper than a single-site universal programmer)
- Programming to full Microchip Technology production specifications
- Program from Master EPROM or internal buffer
- Single button operation

Product Information:

MQP's Pin-Master PICmicro® microcontroller range is due for release 2nd quarter '99. The programmers have been specially designed for economic medium scale production. The emphasis is on quality control, reliability and speed.

Programming of parts is prevented if the Master pattern does not have the correct checksum, avoiding expensive manufacturing errors.

All programmers in the range comply with the more stringent manufacturing programming specification from Microchip Technology. This ensures excellent programming margins.

Programming is a single key operation.

Contact:

MQP Electronics Ltd.
Park Road Centre
Malmesbury
Wilts SN16 0BX England
Tel: (44) 1666 825666
Fax: (44) 1666 825141
email   mqp@compuserve.com
web: www.mqp.com

Distributors.

UK: (44) 1666 825 666
France: (33) 1 69 41 28 01
Germany: (49) 811-6 00 05 0
Italy: (39) 2 92 10 35 54
Ireland: (353) 1 2800395
Japan: (81) 729 81 6332
S.E.Asia: (65) 749 616
South Korea: (82) 2 633 8788
U.S.A.:   (1) 949 493 7603

4

Gang Programmers

ProgRama Tools

ChipBurner-Gang 8

Features:

- Ideal for bringing costly outsourcing of volume programming in house at a very low cost
- Supports up to eight devices at one-time - virtually any package any technology
- Program hundreds of devices in under an hour
- Fully self-contained stand-alone desktop workstation for full gang, set and set-of-sets programming-contains it's own PC
- PC-driven model is also available to keep your entry costs at a minimum
- Industry's first Microsoft® Windows® user interface allows user to see the entire programming setup at a glance
- Serialization and unique label ID
- Revolutionary built-in PCMCIA FLASH Memory Card and docking port provides systematic storage for all customized masters
- Free lifetime technical assistance and device library updates ensure that you get an easy start and stay on easy terms with your ChipBurner

Contact:

ProgRama Tools
3500 NW Boca Raton Blvd.
Bay 501-506
Boca Raton FL 33431
TEL: 800-668-8843
          561-338-8843
FAX: 561-338-8447
email: supportprogramatools.com
web:
    www.programatools.com/programa.htm

Product Information:

The ChipBurner-Gang 8 is the ideal solution to bring your costly outsourcing of volume programming in house to meet today's bottom line. The ChipBurner-16 allows you to program up to sixteen devices at one time. The capability to produce hundreds of devices in an hour makes it a truly production oriented system at an affordable price. Outsourcing volume programming is no longer cost-justifiable and with the ChipBurner-16 there are no setup fees and turnaround time is immediate to meet your needs and schedules. Serialization and unique label IDs for each device being programmed is supported. The ChipBurner-Gang 8 features gang and set support for virtually any EPROM, EEPROM, FLASH, or PICmicro® microcontroller in any package with an unparalleled high- speed data download of 230.4 Kbytes per second.

Two low-cost ChipBurner-Gang 8 models are available to fit your programming needs and budget: the ChipBurner-S8 (Stand-alone) and the ChipBurner-R8 (Remote). The advanced features of the ChipBurner-S8 for full volume production not only operates when attached to a PC host, but can also be equally operated as a fully self-contained engineering or production desktop workstation. The ChipBurner-S8 contains its own CPU and is, therefore, completely portable. Its stand-alone capability allows simple one-key-programming operation from a 30-key integrated keyboard and a large 40-character Liquid Crystal Display (LCD). The ChipBurner-R8 Remote model is strictly PC-driven keeping your entry costs at a minimum.

ProgRama Tools

ChipBurner-Gang 16

Features:

- Fully self-contained, stand-alone desktop workstation for full gang, set and set of sets programming-contains its own PC
- Supports up to 16 devices at one time
- Achieves same high yield as a cluster or concurrent programmer, yet is priced thousands of dollars less
- 25 keys and large 40-character LCD for extensive stand-alone, user-friendly operations including data editing split and shuffle in both HEX and ASCII and advanced serialization labeling
- Can communicate with a host PC using the industry's first Microsoft® Windows® interface for device programmers – PROMSoft-XD
- Industry's first use of parity checking for absolute RAM data integrity
- Industry's first Microsoft Windows-based interface for device programmer
- Revolutionary built-in PCMCIA Memory Card docking port which provides systematic storage of all customized masters
- 3.5-inch Micro Disk Drive for easy free device library updates
- 18 years of proven excellence in the manufacture of quality gang and set programmers

Contact:

ProgRama Tools
3500 NW Boca Raton Blvd.
Bay 501-506
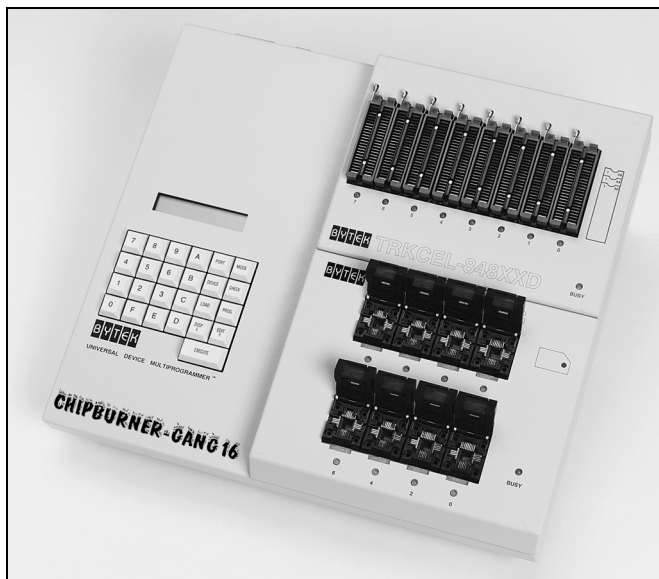Boca Raton FL 33431
TEL: 800-668-8843
         561-338-8843
FAX: 561-338-8447
email: supportprogramatools.com
web:
   www.programatools.com/programa.htm

Product Information:

ChipBurner-Gang 16 is a revolutionary nextwave programmer providing for the hottest and smartest technological digital applications for gang and set programming. The ChipBurner-Gang 16 allows you to program up to 16 devices at one time, making it a truly production oriented system at a very low price. The ChipBurner Gang-16 features support for virtually any EPROM, EEPROM, FLASH, or PICmicro® microcontroller (MCU) in any package with an unparalleled high-speed data download of 230.4 Kbytes per second.

Multi-Matrix Gate Array Technology enables the ChipBurner-Gang 16 to achieve greater results than cluster or concurrent programmers which are simply not suited for gang, set, or set of sets programming. Their exorbitant cost, thousands of dollars more, is not cost justifiable. And unlike conventional programmers, the ChipBurner-Gang 16 can read, blank check, verify and program your entire gang/set at once and at exceptionally fast programming speeds. No other programmer offers higher accuracy and throughput per dollar.
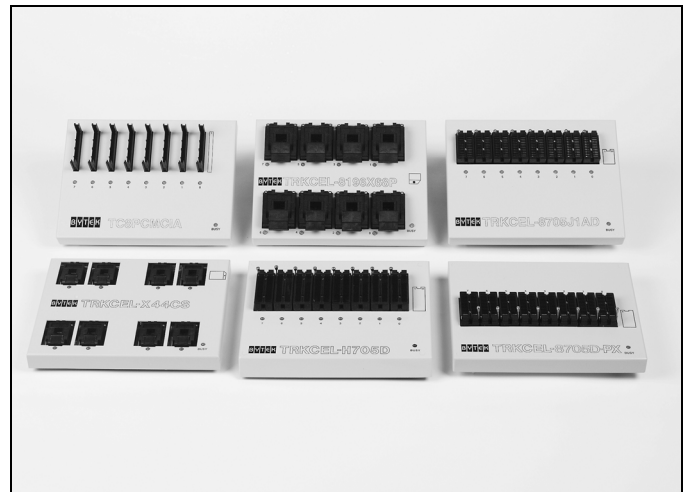
Among its cutting edge innovations is the introduction of full parity checking to the device programming industry, used by all major PC manufacturers to ensure absolute RAM data integrity. Also, the revolutionary introduction of a PCMCIA Memory Card docking port provides systematic storage for all customized master devices, as well as, PROMSoft-XD, the industry's first Microsoft Windows-based interface for device programmers. A few clicks on the screen is all that is necessary to allow the user to create a complete and easy to use automated workstation.

ProgRama Tools

ChipBurner TRACKCels

Features:

- Choose from the largest selection of TRACKCels to support virtually every technology on the market today regardless of packaged type
- Low-cost solution to today's gang/set programming needs
- Wholly versatile through readily achievable selective customization
- Mix and match TRACKCels for technology and package support
- Ultimate expandibility – as requirements change simply plug in a new TRACKCel
- ElectroSense socket isolation circuitry
- Power failure device protection: a power failure will not damage device(s) while installed in TRACKCel

Product Information:

The ChipBurner family of device programmers is wholly versatile through readily achievable, selective customization incorporating proprietary "Multi Track" design. Each TRACKCel supports eight individual programming sites each. The unlimited expandibility of this open architecture allows true flexibility by allowing you to mix and match TRACKCels. This provides a low-cost solution to today's gang/set programming needs. Purchase the support you need now, then later simply plug in another TRACKCel to accommodate future requirements. The ChipBurner family includes the following low cost models:

ChipBurner-Gang 8 supports
       (1) TRACKCel (to 8 devices)
ChipBurner-Gang 16 supports
       (2) TRACKCels (to 16 devices)
ChipBurner-Gang 32 supports
       (4) TRACKCels (to 32 devices)

The ChipBurner-Gang 32 is the first production programmer to support 32 devices at a time with combinations of four package types or technologies by supporting four different TRACKCels. The mix n' match capabilities do not simply end there, the TRACKCels are even capable of programming these different package types all with different data, and all at once. These removable TRACKCels support virtually every technology on the market today. Choose from the largest selection of TRACKCels from the world's largest manufacturer of low-cost gang production programmers.

The entire line of TRACKCels employ Electrosense® socket isolation circuitry which prevents defective devices from destroying any other device which is being concurrently programmed. The TRACKCels also feature high-quality sockets that are mounted directly to the embedded circuit board, providing absolute mechanical stability. All products are manufactured and serviced in the USA.

Contact:

ProgRama Tools
3500 NW Boca Raton Blvd.
Bay 501-506
Boca Raton FL 33431
TEL: 800-668-8843
      561-338-8843
FAX: 561-338-8447
email: supportprogramatools.com
web:
   www.programatools.com/programa.htm

ProgRama Tools

ChipBurner PROMSoft-XD/ Microsoft® Windows®

Features:

- First Microsoft Windows-based interface for device programmers
- ChipBurner can be hooked to a host PC for full automated production workstation
- See your programming setup at a glance
- F1 context-sensitive help screens guarantee both ease of use and constant programming accuracy
- Advanced editing features in both HEX and ASCII
- Operates in any Microsoft Windows environment
- Free and unlimited technical support is available via the Web, telephone or fax and technical support group is always available to answer any questions you may have

Contact:

ProgRama Tools
3500 NW Boca Raton Blvd.
Bay 501-506
Boca Raton FL 33431
TEL: 800-668-8843
         561-338-8843
FAX: 561-338-8447
email: supportprogramatools.com
web:
   www.programatools.com/programa.htm

Product information:

PROMSoft-XD is the first Microsoft Window-based user interface for device programmers. Now you can finally see your entire programming setup at a glance. You can finally maximize your productivity using an easy access menu system by simply pointing and clicking. Your programmer can now be hooked to a PC for automated volume production creating a complete and easy-to-use programming workstation. You can also manage your device data by simply storing it on your PC. The "F1" context sensitive help screens and on screen error reporting features ensure ease of use and constant programming accuracy.

PROMSoft-XD allows you to manage, program, verify, and even edit your device data straight from your PC. PROMSoft has finally relieved every program operator of the many detailed and error prone tasks involved in programming. Flexibility and ease-of-use were primary goals in the development of PROMSoft-XD.

The interface is human-centered and so intuitive that a few clicks on the menu is all that is necessary to enhance the quality and efficiency of your device programming workstation. First-time users and novices will find the PROMSoft-XD manual to be a gentle introduction to gang and set programming, how to get things started and how to get (and stay) on friendly terms with your machine. Step-by-step instructions and fun and easy on-line tutorials, written in plain English, allows users to program their first devices in minutes.

Statistical data is readily available to the user. The devices can be numbered. They can be coded for a specific project and statistical data is available to track your progress and ensure high throughput.

The PROMSoft database of device support can be easily updated at the same time you wish to update the device support to your Multi programmer. Supporting 18 different formats, including JEDEC, Intel®, DATA/IO® BINARY and Motorola®. The software is client/server and easily networkable allowing access to data files residing on any server. Free and unlimited technical support is available via the Internet, hotline, or fax and the Tech Support Group is always available to answer any questions you may have.

4

Gang Programmers

ProgRama Tools

ChipBurner-Portable

Features:

- Handheld battery packed device programmer
- Supports EPROMS, EEPROMS, FLASH, PICmicros® microcontroller (MCUs)
- Supports DIP, PLCC, PSOP/SOIC, TSOP, and PCMCIA Memory Cards
- Built-in Dip package support for 8, 24, 28, 32, 40, 42, 44, and 48 pins
- Built-in PLCC package support for 28 and 32 pins
- Unparalleled 8 Mbit RAM is standard (Expandable to 64 Mbit)
- Revolutionary built-in PCMCIA card allows storage of all your master device library files for true field portability
- Measures only 8-inches x 4.2-inches x 1-inch, yet faster than all other handheld units or your money back

Contact:

ProgRama Tools
3500 NW Boca Raton Blvd.
Bay 501-506
Boca Raton FL 33431
TEL: 800-668-8843
        561-338-8843
FAX: 561-338-8447
email: supportprogramatools.com
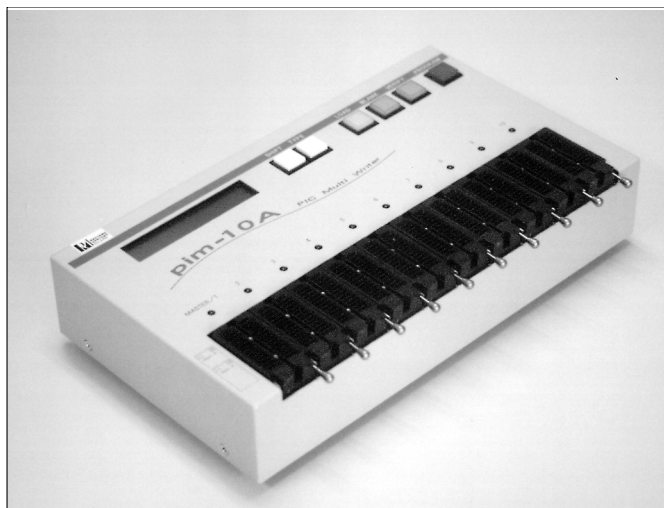web:
    www.programatools.com/programa.htm

Product Information:

ProgRama Tools has brought your biggest ideas and programming needs down to size as well as provided solutions for the hottest, smartest, most portable applications in device programming. The Chipburner-Portable is a revolutionary nextwave, handheld programmer offering much more than the programming industry's initial focus on the "Wow" or the "Egad" of the first generation of the handheld's tiny size. It's sharp focus on integration of digital technological innovations within the size, power, speed, accuracy and cost constraints of handheld systems has resulted in rendering any other handheld unit completely and utterly obsolete. But don't just take our word for it. Make your own analysis and you too will quickly see for yourself that what sets ProgRama apart from its competitors is that we understand that the point is to think big, then to think really, really small. Here's the proof!

The ChipBurner-P operates as a field portable stand-alone workstation. It can operate with a rechargeable battery pack for full field portability, or plugged into any outlet. The ChipBurner-P can also just as easily be hooked to any PC for full volume production using the industry's first Microsoft® Windows®-based interface for device programmers – PROMSoft-XD®. A few clicks on the menu screen is all that is necessary to allow the user to operate his ChipBurner-P in a true Microsoft Windows environment and guarantee accuracy. PROMSoft -XD runs under any Microsoft Windows operating environment and allows the user the capability of seeing his entire programming setup at a glance.

RASTEME
System Co., Ltd.

PIM/10A

***The Gang Programmer for the
PIC16C5X Microcontroller (MCU) Family***

Features:

- Program, blank check, verify functions
- The code protection can be chosen
- Stand-alone control
  (download from master device)
- PC Host Mode-IBM® and NEC 98
  compatibility
- Can write 10 devices at once
- One touch programming
- Serialization capability in PC Host Mode
- 12V DC, 2.0A power supply
- Contour dimension 270 × 155 × 50

Product information

PIM/10A is a gang programmer for the PIC16C5X. After data is read from the master device, 10 devices can be programmed by clicking one at a time. Devices can be blank checked and verified. After the data on the device is read, the existence of the code protection can be chosen. Serialization of the device can be accomplished through an attached RS-232C port.

Reliability increases with the device more because it can be set up freely within the range of the minimum voltage of each device and the maximum voltage.

The support devices:

PIC16C52, PIC16C54, PIC16LC54, PIC16C54A, PIC16LC54A, PIC16C56, PIC16LC56, PIC16C58A, PIC16LC58A, PIC16C55, PIC16LC55, PIC16C57 and PIC16LC57

Contact

RASTEME SYSTEMS Co.,Ltd.
Office
886-2 Nihongi Nakago-Mura
Nakakubiki-Gun Niigata
949-2304 Japan
TEL: (81)255-74-4124
FAX: (81)255-74-2439

Tokyo Office
Titibu electric Building 4F
3-12-15 Sotokanda Tiyoda-Ku
Tokyo 101-0021 Japan
TEL: (81)3-3257-6055
FAX: (81)3-3257-6057
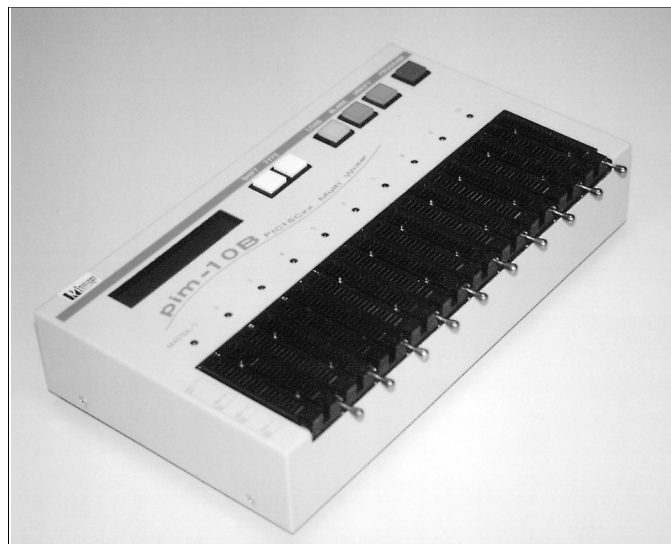email: inquiry@mail.rasteme.co.jp
web: www.rasteme.co.jp

4

**Gang
Programmers**

RASTEME
System Co., Ltd.

PIM/10B

The Gang Programmer for the PIC16C6X and PIC16C7X Microcontroller (MCU) Families

Features:

- Program, blank check, verify functions
- The code protection can be chosen
- Stand-alone control
  (download from master device)
- PC Host Mode-IBM® and NEC 98 compatibility
- Can write 10 devices at once
- One touch programming
- Serialization capability in PC Host Mode
- 12V DC, 2.0A power supply
- Contour dimension 270 × 155 × 50

Contact

RASTEME SYSTEMS Co.,Ltd.

Office
886-2 Nihongi Nakago-Mura
Nakakubiki-Gun
Niigata 949-2304 Japan
TEL: (81)255-74-4124
FAX:(81)255-74-2439

Tokyo Office
Titibu electric Building 4F
3-12-15 Sotokanda Tiyoda-Ku Tokyo
101-0021 Japan
TEL: (81)3-3257-6055
FAX: (81)3-3257-6057
email: inquiry@mail.rasteme.co.jp
web: www.rasteme.co.jp

Product information

PIM/10B is a gang programmer for the PIC16C6X and PIC16C7X. After data is read from the master device, 10 devices can be programmed by clicking one at a time. Devices can be blank checked and verified. After the data on the device is read, the existence of the code protection can be chosen. Serialization of the device can be accomplished through an attached RS-232C port.

Reliability increases with the device more because it can be set up freely within the range of the minimum voltage of each device and the maximum voltage.

The support devices:

PIC16C554, PIC16C556, PIC16C558, PIC16C61, PIC16C62, PIC16C62A, PIC16C620, PIC16C621, PIC16C63, PIC16C64, PIC16C64A, PIC16C65, PIC16C65A, PIC16C70, PIC16C71, PIC16C71A, PIC16C710, PIC16C711, PIC16C72, PIC16C73, PIC16C73A, PIC16C74, PIC16C74A, PIC16C84, PIC16LC84, PIC16F84 and PIC16LF84

Stag Programmers Ltd.

Stag P803

Features:

- Fastest known Gang/Set Programmer, very fast programming with high performance prechecks and post programming tests
- Fast downloads via RS-232/high-speed IEEE 1284 parallel port
- Programs to manufacturer's certified algorithms
- Flexible modular concept allows easy expansion up to 84 pins
- Mix or match modules to configure programmer to production requirements
- Modules provide reliable device contact – no adaptors required
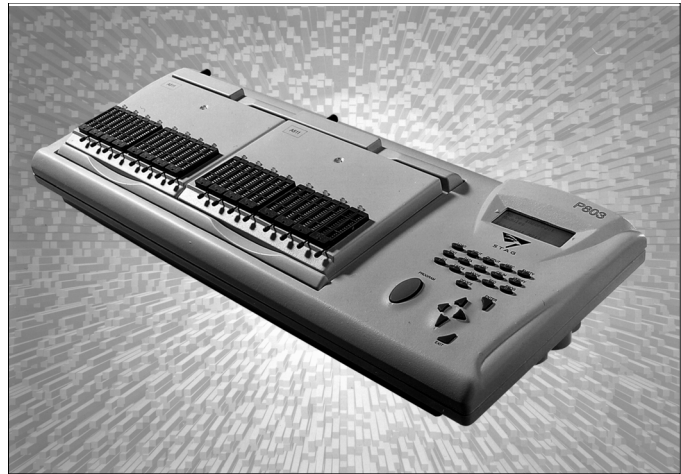- Modules can be changed quickly and easily

Contact:

Stag Programmers Ltd.
Silver Court, Watchmead
Welwyn Garden City
Herts AL7 1LT
England
TEL: +44 (0) 1707 332148
FAX: +44 (0) 1707 371509
email: sales@stag.co.uk
web: www.stag.co.uk

Stag Programmers Inc.
7451 Topanga Canyon Blvd.
Canoga Park, CA 91303
TEL: (888) 700-STAG (7824)
        (818) 587-3434 (International)
FAX: (818) 587-3433
email: sales@stagusa.com
web: www.stagusa.com

Product Information:

The Stag P803 is the fastest known gang/set programmer with up to 16 devices in gang. Its FLASH memory stores algorithms which can be easily upgraded via the I/O ports and the CPU is a powerful 32-bit embedded RISC Microcontroller running at 24 MIPS giving high performance programming never encountered before. The RAM is easily upgradable from the standard 4 Mbytes (32 Mbits) to 8 Mbytes (64 Mbits) or 16 Mbytes (128 Mbits) by adding SIMMs.

High-speed data transfer is achieved by using an RS-232 serial port with baud rate selection from 1200 to 115 kbps (XON/XOFF) and (RTS/CTS) and an IEEE 1284 parallel port giving enhanced bidirectional communication. The Stag P803 can operate as remote or stand-alone and while in remote all the functions of the programmer can be controlled from the computer.

The Stag P803 supports EPROMs, EEPROMs, Serial EPROMs, FLASH and Microcontrollers in all package types with no adaptors required – DIP, PLCC, PSOP and TSOP.
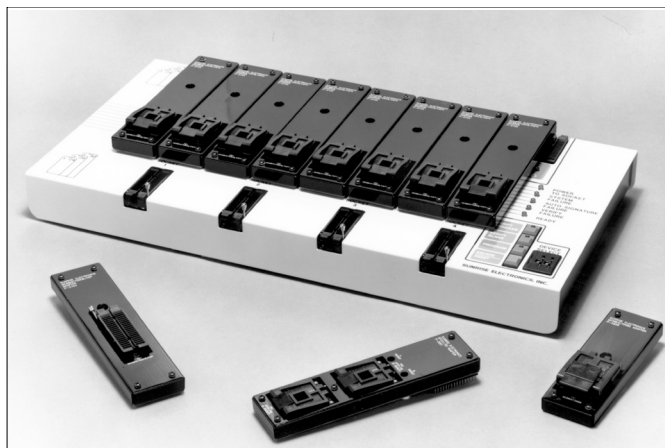
The Stag P803 supports Microchip Technology PIC12CXXX, PIC16C5X, PIC16C6X, PIC16C62X, PIC16C7XX, PIC16F87X, PIC17CXXX microcontrollers and also, 93LCXX and 24LCXX Non-Volatile memory products.

4

Gang Programmers

Sunrise Electronics, Inc.

T-1600
Gang Programmer

Features:

- Programs 16 at once in the same or set mode
- One – four masters or data blocks simultaneously
- Supports any programmable device of any package configuration or number of pins
- Supports all Microchip Technology microcontrollers and memory devices
- Programs in fastest time allowed by Microchip Technology algorithms
- User friendly, easy-to-use and understand menu-driven software
- Unlimited memory using PC
- Free technical support for life of equipment via telephone or at the Sunrise facility
- Free software upgrades 24 hours a day seven days a week via BBS
- Manufactured and supported in the United States of America

Product Information:

Since 1977 Sunrise Electronics, Inc. has been the leader in Universal, Gang and In-Circuit Programming Systems.

The T-1600 represents the latest in gang programmers having the capacity to do 16 MEG devices of any type including Microcontrollers, FPGA, EPROM, EEPROM, PLD, EPLD, PEEL and PGA. Only the manufacturer's approved algorithms are used. No short cut programming ever!

Operation from the PC or stand-alone mode allows the fastest and most accurate programming of any type device. The user interface is a menu-driven, easy-to-use format. In less than one minute, the user is ready to program the device of their choice.

The T-1600 is compatible with any media, whether it be LAN, WAN or other. It supports any type file format including JEDEC and HEX.

The T-series has established a long history of high reliability. Using all SMT electronics and state-of-the-art design, the T-series represents the most flexible and reliable programming system available.

Contact:

Sunrise Electronics, Inc.
675 Brea Canyon Road, #6
Walnut, CA 91789
TEL: (909) 595-7774
FAX: (909) 594-7009
BBS: (909) 594-6610
email: sales@sunriseelectronics.com
web: www.sunriseelectronics.com

Sunrise Electronics, Inc.

T-2000 Programming System

Features:

- The most flexible programmer in the industry
- Supports multiple programmable devices of any package configuration or number of pins in Gang, Gang/Set or In-Circuit single board programming
- Obsolescence proof
- Supports all Microchip Technology Microcontroller (MCUs) and memory devices; up to eight devices or one circuit board
- Can serialize microcontrollers while programming
- Programs in fastest time allowed by manufacturers algorithms
- User-friendly, easy-to-use and understand menu-driven software
- Unlimited memory using PC
- Free technical support for life of equipment via telephone or at the Sunrise facility
- Free training at Sunrise
- SMT construction for long reliable life
- Manufactured and supported in the United States of America

Product Information:

Since 1977 Sunrise Electronics, Inc. has produced the most cost effective and reliable Gang, Gang/Set and In-Circuit Programming Systems.

The T-2000 represents the latest technology in multiple purpose programming systems having the capacity to program devices of any type, or combination of devices, including microcontrollers, FPGA, EPROM, EEPROM, FLASH, PLD, EPLD, PEEL and PGA. Only the manufacturer's approved algorithms are used. No short cut programming ever! Up to eight (8) devices can be gang programmed, programmed in sets OR the system programs a single circuit board. An infinite number of different circuit boards may be programmed using different adapters.

Operation from the PC allows the fastest and most accurate programming. The user interface is a menu-driven, easy-to-use format. In less than one minute, the user is ready to program.

The T-2000 is compatible with any media whether it be LAN, WAN or other. It supports any type file format including JEDEC and HEX.

The Sunrise T-series programmers have established a long history of high reliability. Using all SMT electronics and state-of-the-art design, the T-series represents the most flexible and reliable programming systems available.

Call Sunrise for technical consultation at no charge.

4

Gang Programmers

Contact:

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675 Brea Canyon Road, #6
Walnut, CA 91789
TEL: (909) 595-7774
FAX: (909) 594-7009
BBS: (909) 594-6610
email: sales@sunriseelectronics.com
web: www.sunriseelectronics.com

Sunrise Electronics, Inc.

T-4000 Programming System

Features:

- The most flexible programmer in the industry
- Supports multiple programmable devices of any package configuration or number of pins in Gang, Gang/Set or In-Circuit
- Obsolescence proof
- Supports all Microchip Technology Microcontroller (MCUs) and memory devices; up to 96 devices or up to 64 circuit boards simultaneously
- Can serialize microcontrollers while programming
- Programs in fastest time allowed by manufacturers algorithms
- User-friendly, easy-to-use and understand menu-driven software
- Unlimited memory using PC
- Free technical support for life of equipment via telephone or at the Sunrise facility
- Free training at Sunrise
- Manufactured and supported in the United States of America

Product Information:

Since 1977 Sunrise Electronics, Inc. has produced the most cost effective and reliable Gang, Gang/Set and In-Circuit Programming Systems.

The T-4000 represents the latest technology in multi-purpose programming systems having the capacity to program devices of any type, or combination of devices, including microcontrollers, FPGA, FLASH, EPROM, EEPROM, PLD, EPLD, PEEL and PGA. Only the manufacturer's approved algorithms are used. No short cut programming ever!

Up to ninety-six (96) devices can be gang programmed, programmed in sets OR the system programs up to 64 circuit boards simultaneously.

Operation from the PC allows the fastest and most accurate programming. The user interface is a menu-driven, easy-to-use format. In less than one minute, the user is ready to program.

The T-4000 is compatible with any media whether it be LAN, WAN or other. It supports any type file format including JEDEC and HEX.

The Sunrise T-series programmers have established a long history of high reliability. Using the latest electronic technology and state-of-the-art design, the T-series represents the most flexible and reliable programming systems available.

Call Sunrise for technical consultation at no charge.

Contact:

Sunrise Electronics, Inc.
675 Brea Canyon Road, #6
Walnut, CA 91789
TEL: (909) 595-7774
FAX: (909) 594-7009
BBS: (909) 594-6610
email: sales@sunriseelectronics.com
web: www.sunriseelectronics.com

Sunrise Electronics, Inc.

T-5000 Programming System

Features:

- The most flexible programmer in the industry. Full PC capability with Pentium® 100 and higher
- Programming power for lab or field use
- Serial and parallel ports, color or monochrome display and 850 Megabyte PCI Hard Drive
- Supports multiple programmable devices of any package configuration or number of pins in Gang, Gang/Set or In-Circuit
- Obsolescence proof
- Supports all Microchip Technology Microcontroller (MCUs) and memory devices; up to 48 devices or up to 32 circuit boards simultaneously
- Programs in fastest time allowed by manufacturers algorithms
- User-friendly, easy-to-use and understand menu-driven software
- Unlimited memory using PC
- Free technical support for life of equipment via telephone or at the Sunrise facility
- Free training at Sunrise
- Manufactured and supported in the United States of America

Product Information:

The T-5000 represents the latest technology in multiple purpose programming systems having the capacity to develop software at the device or circuit board level, and program devices of any type, or combination of devices, including microcontrollers, FPGA, EPROM, EEPROM, FLASH, PLD, EPLD, PEEL and PGA. Only the manufacturer's approved algorithms are used. No short cut programming ever!

Up to forty-eight (48) devices can be gang programmed, programmed in sets OR the system programs up to 32 circuit boards simultaneously.

As a PC the system allows R&D programming, debugging and reprogramming using the fastest and most accurate programming. The user interface is a menu-driven, easy-to-use format. In less than one minute, the user is ready to program.

The T-5000 MPS is compatible with any media whether it be LAN, WAN or other. It supports any type file format including JEDEC and HEX.

The Sunrise T-series programmers have established a long history of high reliability. Using the latest technology electronics and state-of-the-art designs, the T-series represents the most flexible and reliable programming systems available.

Call Sunrise for technical consultation at no charge.

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web: www.sunriseelectronics.com

4

Gang Programmers

Sunrise
Electronics, Inc.

T-8000
Programming System

Features:

- Most flexible programmer in the industry
- Programs devices either in gang or gang/ set or programs in-circuit at the circuit board level
- Supports multiple programmable devices of any package configuration or number of pins in Gang, Gang/Set or In-Circuit
- Obsolescence proof
- Supports all Microchip Technology Microcontroller (MCUs) and memory devices; up to 128 devices or up to 64 circuit boards simultaneously
- Can serialize microcontrollers
- 540 watts of programming power
- Programs in fastest time allowed by manufacturers' algorithms
- User-friendly, easy-to-use and understand menu-driven software.
- Full PC for maximum flexibility
- Unlimited memory using PC
- Free technical support for life of equipment via telephone or at the Sunrise facility
- Free training at Sunrise
- Manufactured and supported in the United States of America

Product Information:

Since 1977 Sunrise Electronics, Inc. has produced the most cost effective and reliable programming systems.

The T-8000 represents the latest technology in multiple purpose programming systems having the capacity to program devices of any type, or combination of devices, including microcontrollers, FPGA, EPROM, EEPROM, FLASH, PLD, EPLD, PEEL and PGA. Only the manufacturer's approved algorithms are used. No short cut programming ever!

Up to one hundred twenty-eight (128) devices can be gang programmed, programmed in sets OR the system programs up to 64 circuit boards simultaneously.

Operation from the PC allows the fastest and most accurate programming. The user interface is a menu-driven, easy-to-use format.

The T-8000 is compatible with any media whether it be LAN, WAN or other. It supports any type file format including JEDEC and HEX.

The Sunrise T-series programmers have established a long history of high reliability. Using the latest electronic technology and state-of-the-art design, the T-series represents the most flexible and reliable programming systems available.

Call Sunrise for technical consultation at no charge.

Contact:

Sunrise Electronics, Inc.
675 Brea Canyon Road, #6
Walnut, CA 91789
TEL: (909) 595-7774
FAX: (909) 594-7009
BBS: (909) 594-6610
email: sales@sunriseelectronics.com
web: www.sunriseelectronics.com

System General Corporation
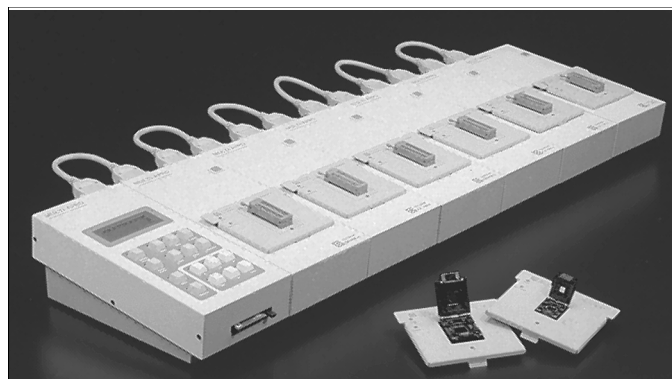
Multi-APRO Asynchronous Programmer

Features:

- Supports the entire PICmicro® MCU family and derivatives, and PIC12CXXX
- Supports EPROM, EEPROM, FLASH, EPLD, CPLD, PAL, GAL, FPGA (Including Anti-Fuse) from all manufacturers
- Fastest possible programming times and highest possible yields
- Engineering/production universal programmer
- Innovative independent-socket technology
- Operates stand-alone or via Windows®-style PC control software (included)
- Optional "jobs-management" production software
- 8 Megabit RAM standard (per module)
- Upgradable to 64 Megabit.
- Supports 8-Bit and 16-Bit MCUs
- Software updates via 24-hr. BBS
- One year HW warranty

Contact:

System General Corp.

1603A S. Main Street
Milpitas, CA 95035
TEL: (800) 967-4776
          (408) 263-6667
FAX: (408) 262-9220
BBS: (408) 262-6438
email: sga@inreach.com
web: www.sg.com.tw

3F, No.1, Alley 8, Lane 45
Bao Shing Road, Shin Dian
Taipei, Taiwan
TEL: 886-2-2917-3005
FAX: 886-2-2911-1283

SYSTEM GENERAL

Product Information:

System General's Multi-APRO is an extremely advanced programming system for processing Microchip Technology PICmicro microcontrollers (MCUs) for engineering or production. Support for all package styles and component families is comprehensive and ongoing.

Multi-APRO is based on a 48 Universal Pin-Driver architecture and is the ideal tool for design or manufacturing when working with programmable devices. The system can be configured with a single socket for R&D and then expanded as the application turns to production. All package styles are supported including DIP, PLCC, SOIC, SSOP, TSOP, QFP, TQFP and PGA.

As many as eight modules can be linked to one controller so that programming can occur eight-at-a time asynchronously! As well, kitting is facilitated since each module can be configured for a different device, even different package style. Device-specific algorithms are stored in the computer and on FLASH (PCMCIA) card for firmware. Remote operation is via RS-232 (115 kbps) or parallel port for the ultimate in flexibility. Mouse-driven software allows for easy-to-apply engineering/editing features.

Use of only approved algorithms assures optimum yields, and SG's patented "Auto-Mapping" technology provides for the industry's fastest programming times and therefore highest throughput. Easy-to-use engineering features allow for convenient editing of data. Additional capabilities include swap-shuffle-split and even serialization! Optional High/Low V_{CC} verify can help insure board-level reliability. All configuration modes are supported. Compatible with Microchip Technology's proprietary checksum generating method.

Default operation = Blank-check/Program/Verify... Selectively disabled.

4

Gang Programmers

System General Corporation

Turpro-848 Gang Programmer

- Gang Programmers supporting EPROM/ EEPROM/FLASH/Microcontrollers
- Two Embedded CPU and Turbo Mapping Technology
- Socket adapter for DIP, PLCC, PSOP, TSOP, VSOP and other device packages
- Adapter support for PIC12C508, PIC16C54, PIC16C, PIC16C55, PIC16C56, PIC16C57, PIC16C84 on DIP package
- Adapter support for PIC16C6XX and PIC16C7X on DIP package
- Supporting 5.0V, 3.3V, 3.0V, 2.7V, 1.5V low-voltage device
- Control Mode: stand-alone operation and computer remote control
- Device Insertion Check: backward device check, device inserted position check
- Free software updates through Web site.

Product Information:

Turpro-848 Gang System Programmer with quality ensured by ISO9001 certification, this system comes with complete device supports for EPROM, EEPROM and FLASH EPROM. It also programs 87/89 series MPU and Microchip Technology PICmicro® microcontroller (MCU) devices up to eight pieces at a time.

Turpro-848 also has the socket adapter to match DIP, PLCC, TSOP, PSOP, VSOP or other packages. And the Turpro-848 uses a dedicated CPLD on each socket for circuitry isolation. As such, a programming failure on one socket will not affect the programming on others. In addition, a proprietary mapping technology controlled by an advanced dual CPU system ensures accurate pulse width and fast programming speed on each socket. Turpro-848 has all the features designed to fit your production requirement. It can be operated as a stand-alone unit or can interface with a PC under DOS™ or Windows® environment for remote operations. An optional parallel interface is available to facilitate high-speed file downloading. The Marginal Test allows you to verify the programmed devices against a user-defined voltage range and disqualify marginal devices before they reach the board level. The unique "Auto-Sense" function will sense the inserted device and program the device without touching any key. To update the system, simply reprogram the embedded FLASH device. The updates are free!

Contact:

System General Corp.
1603A S. Main Street
Milpitas, CA 95035
TEL: (800) 967-4776
          (408) 263-6667
FAX: (408) 262-9220
BBS: (408) 262-6438
email: sga@inreach.com
web: www.sg.com.tw

3F, No.1, Alley 8, Lane 45
Bao Shing Road, Shin Dian
Taipei, Taiwan
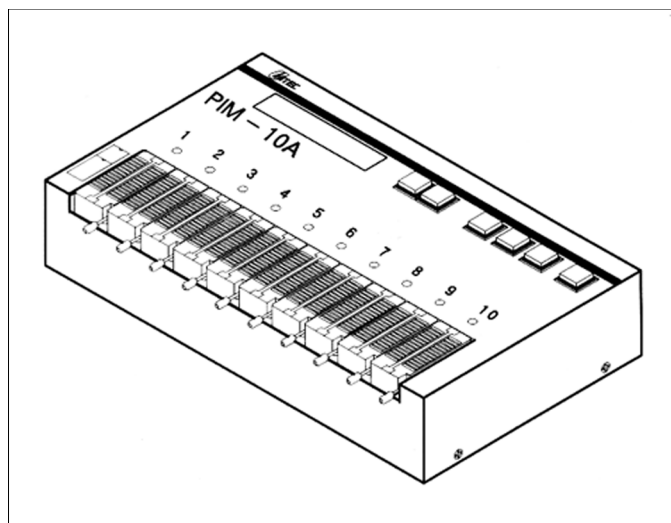TEL: 886-2-2917-3005
FAX: 886-2-2911-1283

SYSTEM GENERAL

Unitec Electronics Company Ltd.

Pim/10A

Features:

- Can write 10 devices at once
- Programs all four PIC16C54, PIC16C55, PIC16C56 and PIC16C57 devices
- One-touch programming
- Ten 28-pin DIP socket (18- to 28-pin devices)
- 20 x 2 Liquid Crystal Display
- Code protect selection capability
- 12V DC, 2.0A power supply
- Stand-alone capability (download from master device)
- PC Host Mode-IBM® and NEC98 compatibility
- Serialization capability in Host Mode
- Can Verify V_{DD} voltage from 2.0V (V_{DD_MIN}) to 6.5V (V_{DD_MAX})

Product Information:

This product is a programmer for Microchip Technology PIC16C54, PIC16C55, PIC16C56 and PIC16C57 EPROM microcontrollers. Capable of programming up to 10 devices at once, with or without code protection.

Data to be programmed is typically READ from a single master device. In addition to reading and programming the device, it can also perform blank checks and code verifications. Blank check plus programming followed by verification can all be performed in a single keystroke. The display allows for easy identification of programmer operation and any error conditions. Additionally, each programming socket has its own red LED to clearly show which, if any device did not program properly. In Host Mode (RS-232C), additional functions include microcontroller serialization, program code upload/download, as well as programming pass/fail counters.

Contact:

Unitec Electronics Co., Ltd.
Office:
886-2, Nihongi, Nakago-Mura,
Nakakubiki-Gun, Niigata 949-23
Japan
TEL: (81) 255 74-4124
FAX: (81) 255 72-4114

Tokyo Office:
Mitinoku Building 4F
4- 9, Kanda Sakuma-Cho,
Chiyoda-Ku, Tokyo 101
Japan
TEL: (81) 3 3863-8411
FAX: (81) 3 3863-8413

4

Gang Programmers

Unitec Electronics Company, Ltd.

Pim/10B

Features:

- Can write 10 devices at once
- Programs all ten PIC16C61, PIC16C62, PIC16C64, PIC16C65, PIC16C71, PIC16C73, PIC16C74 PIC16C620, PIC16C621 and PIC16C622 devices
- One-touch programming
- Ten 40-pin DIP socket
  (28- to 40-pin devices)
- 20 x 2 Liquid Crystal Display
- Code protect selection capability
- 12V DC, 2.0A power supply
- Stand-alone capability
  (download from master device)
- PC Host Mode-IBM® and NEC98 compatibility
- Serialization capability in Host Mode
- Can Verify V_{DD} voltage from
  2.0V (V_{DD_MIN}) to 6.5V (V_{DD_MAX})

Product Information:

This product is a programmer for Microchip Technology PIC16C61, PIC16C62, PIC16C64, PIC16C65, PIC16C71, PIC16C73, PIC16C74 PIC16C620, PIC16C621 and PIC16C622 EPROM/PROM microcontrollers. PIM/10B is capable of programming up to 10 devices at once, with or without code protection.

Data to be programmed is typically READ from a single master device. In addition to reading and programming the device, it can also perform blank checks and code verifications. Blank check plus programming followed by verification can all be performed in a single keystroke. The display allows for easy identification of programmer operation and any error conditions. Additionally, each programming socket has its own red LED to clearly show which, if any device did not program properly. In Host Mode (RS-232C), additional functions include microcontroller serialization, program code upload/ download, as well as programming pass/fail counters.

Contact:

Unitec Electronics Co., Ltd.
Office:
886-2, Nihongi, Nakago-Mura
Nakakubiki-Gun, Niigata 949-23
Japan
TEL: (81) 255 74-4124
FAX: (81) 255 72-4114

Tokyo Office:
Mitinoku Building 4F
4- 9, Kanda Sakuma-Cho,
Chiyoda-Ku, Tokyo 101
Japan
TEL: (81) 3 3863-8411
FAX: (81) 3 3863-8413